Assessment of the potentiality of solar energy

841. SHRIS. ANBALAGAN: Will the Minister of NON-CONVENTIONAL
ENERGY SOURCES be pleased to state:

(a) whether Union Government made any assessment of the potentiality of solar energy in solving the energy needs of the country in the long run;

(b) if so, the details thereof and the follow-up steps being taken/proposed to be taken thereon;

(c) whether any research is being made to harness the solar energy entirely without any wastage; and

(d) if so, the details thereof and the achievements made/proposed to be made thereon?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR): (a) and (b) Efforts to assess availability of solar radiation in various parts of the country were initiated during early eighties. In this regard, India Meteorological Department (IMD) brought out two handbooks in 1980 and 1982. The annual average solar energy falling on one square meter of area is in the range of 4—7 kilowatt-hour. Presently, the Ministry has taken up a project with IMD, for updation of the solar radiation data. The project is under progress.

(c) and (d) The Ministry has been promoting development and utilization of solar energy in the country. It may be mentioned that every solar system/ device has certain losses of incident energy, and only a part of it can be converted into electricity or heat. As a result of the Ministry's efforts made so far, a number of devices and systems have been developed in the country These include solar water heaters, solar cookers, solar lanterns, solar home and streetlights, pumps, small power packs and photovoltaic systems for battery charging applications, etc. The focus of research is on further improvement in the technology and cost reduction.

Monitoring the working of IREP

842. SHRI C. RAMACHANDRAIAH: Will the Minister of **NON-**CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether Government have any mechanism to monitor the working of the Integrated Rural Energy Programme,

(b) if so, the details thereof;

(c) the status of implementation of the programme in the State of Andhra Pradesh during the last one and half year; and

(d) the amount of money spent on the programme in Andhra Pradesh during said period, district-wise details thereof ?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR): (a) and (b) Monitoring of the Integrated Rural Energy Programme (IREP) is done at the Central, State and District levels. The State Nodal Agencies/ State Nodal Departments implementing the programme are required to send physical and financial reports of the progress of the programme to the Ministry of Non-Conventional Energy Sources. These reports include details of expenditure incurred, funds utilized and item-wise physical and financial progress of various rural and renewable energy programmes taken up under IREP. Periodic review meetings are held by the Ministry to monitor progress of the programme in the States.

(c) and (d) IREP is **a** Centrally Sponsored Scheme and is implemented in Andhra Pradesh by the Andhra Pradesh State Council of Science and Technology (APCOST) on a 50:50 cost sharing basis. APCOST has spent about Rs. 1.0 crore during the last one and half year for various training programmes, installation of various rural and renewable energy systems and energy surveys in different districts of the State. Central funds have not been released during this period to Andhra Pradesh for this programme.

Extended loans for generation of solar and wind energy

843. SHRI GIREESH KUMAR SANGHI: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) the development made in the sphere of sun and wind energy; and

(b) the loans extended to generate sun and wind energy in the last three years?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR): (a) The Ministry of Non-Conventional Energy Sources has been promoting the development and deployment of various solar energy and wind energy devices and systems in the country. In the area of solar energy, these include solar cookers, water heating and air heating systems, lanterns, home lights, street lights, pumps, power packs, etc. A total of about 1.1 million sq. m. of collector area for solar water heating systems and about